

第四章补充习题答案

1.

$$N = mg \left[1 + \frac{(6 \sin \theta - \sin^3 \theta - 4) \sin \theta - F \cos \theta \sin \theta (\cos^2 \theta + 3)}{(1 + \cos^2 \theta)^2} \right]$$

2. $\theta_1 = \pi$ (不稳定平衡), $\theta_2 = \frac{\pi}{2}$ (稳定平衡)

$$T = \frac{2\pi}{\omega} = 2\pi \sqrt{\frac{2(\sqrt{2}-1)R}{g}}$$

3. $H_1 = 5a + \frac{v_1^2}{2g} = \frac{1}{81}(529h + 403a)$